

Remarks

I. Election of Species

Responsive to a Restriction Requirement contained in the Office Action, applicants elect Invention I, corresponding to claims 1-18, without traverse. Applicants have cancelled claims 19 and 20 without prejudice, because those claims are directed to a non-elected invention. Applicants have added new claims 21 and 22, which are directed to Invention I.

II. The Drawings

The Drawings have been amended to correct some typographical errors. An amendment to the drawings is contained in an enclosed "Replacement Sheet" for sheet 22, FIG. 24, with a marked-up copy showing the changes to that figure also enclosed and entitled "Annotated Sheet Showing Changes."

III. The Specification

The Cross-Reference to Related Applications and other portions of the Specification have been amended to correct some typographical errors.

IV. The Claims

A. Priority

Applicants respectfully request that the examination of the present claims proceed on the basis of the assumption that the claims draw support only from the present application, in order to expedite examination of those claims and because applicants are convinced that the claims are patentable on that basis, as demonstrated in the discussion that follows. Applicants reserve the right, however, to point out prior applications which support the claims, after these claims have issued in a patent.

B. Double Patenting

Applicants respectfully disagree with the Office Action statement that claims 1-18 are unpatentable over claims 1-23 of U.S. Patent No. 6,226,680 ("the '680 patent") in

Amendment to the Drawings:

An amendment to the drawings is contained in an enclosed "Replacement Sheet" for sheet 22, FIG. 24, with a marked-up copy showing the changes to that figure also enclosed as an appendix that is entitled "Annotated Sheet Showing Changes."

view of Stevens and further in view of Schulzrinne. For example, claim 1 of the '680 patent recites:

A method for communication between a network and a host computer having a processor and a sequential stack of protocol layers, the method comprising:

receiving, by said host from said network, a message packet including data and a plurality of headers corresponding to said stack of protocol layers, said data intended for placement in said host according to protocol processing of said headers,

processing, sequentially as a group, said plurality of headers, including creating a summary of said group of headers, and

choosing, dependent upon said summary, whether to process said packet by said protocol layers or to avoid processing by said protocol layers, for storing said data in a destination in said host.

In contrast, claim 1 of the present application recites:

An apparatus for transferring information between a network and a storage device, the apparatus comprising:

a host computer having a CPU operating a file system and a host memory connected to said CPU by a host bus, and

an interface device coupled to said host computer, to the network and to the storage device, said interface device including an interface memory containing an interface file cache adapted to store data that is communicated between the network and the storage device under control of said file system,

wherein said host computer is configured to designate a User Datagram Protocol socket that is accessible by said interface device, and said interface device is configured to communicate said data between the network and the file cache according to said User Datagram Protocol socket.

It is difficult to imagine how the Office Action finds the present claims to be obvious over the claims of the '680 patent. The only explanation given by the Office Action is:

Although the conflicting claims are not identical, they are not patentably distinct from each other because UDP and RTP are well-known data transfer protocols comprising packets with transport layer headers. Motivation for combination is detailed below in the rejection of claims 1 and 11.

As noted above, applicants respectfully disagree. Applicants respectfully assert that the Office Action has not presented a prima facie case of double patenting.

C. 35 U.S.C. §112

Claims 7 and 11-18 stand rejected under 35 U.S.C. §112, second paragraph. The Office Action states:

Claim 7 is rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is not clear how to interpret the limitation “said data does not enter said host computer” in line 1, because the specific elements of the host computer have not been recited and the elements of the “host computer” have not been explicitly defined in the specification. Under the broadest reasonable interpretation, the Examiner finds that the “host computer” may be interpreted as the CPU.

Applicants respectfully disagree with the Office Action statement that claim 7 is indefinite. A “host computer” 20 is shown and described in Fig. 1 and corresponding text (see, e.g., page 6, lines 7-9 and page 8, lines 5-9), in FIG. 2 and corresponding text, in FIG. 5 and corresponding text, in FIG. 6 and corresponding text, and in FIG. 9 and corresponding text, for example. Applicants do not understand how reciting specific elements of the host computer is required in this regard. For instance, the recitation that a bicycle does not enter a car is clear, and does not become clearer by first reciting the car’s steering wheel, engine, transmission, wheels, etc. It is also curious to note that the Examiner does not appear to have trouble understanding claim 7 when making an obviousness rejection of that claim in paragraph 21 of the Office Action. Applicants also disagree with the Office Action statement that under the broadest reasonable interpretation, the “host computer” may be interpreted as the CPU.

For these reasons, applicants respectfully assert that the Office Action has not presented a prima facie case of indefiniteness of claim 7.

The Office Action states:

Claims 11-18 are rejected under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, it is not clear how to interpret the limitation “without encountering said host computer” in lines 11-12, because the specific elements of the host computer have not been recited and the elements of the “host computer” have not been explicitly defined in the specification. Under the broadest reasonable

interpretation, the Examiner finds that the “host computer” may be interpreted as the CPU.

Applicants respectfully disagree with the Office Action statement that claims 11-18 are indefinite. A “host computer” 20 is shown and described in Fig. 1 and corresponding text (see, e.g., page 6, lines 7-9 and page 8, lines 5-9), in FIG. 2 and corresponding text, in FIG. 5 and corresponding text, in FIG. 6 and corresponding text, and in FIG. 9 and corresponding text, for example. Applicants do not understand how reciting specific elements of the host computer is required in this regard. For instance, the recitation that a bicycle rides down a street without encountering a car is clear, and does not become clearer by first reciting the car’s steering wheel, engine, transmission, wheels, etc. It is also curious to note that the Examiner does not appear to have trouble understanding claim 11 when making an obviousness rejection of that claim in paragraph 24 of the Office Action. Applicants also disagree with the Office Action statement that under the broadest reasonable interpretation, the “host computer” may be interpreted as the CPU.

For these reasons, applicants respectfully assert that the Office Action has not presented a prima facie case of indefiniteness of claims 11-18.

D. 35 U.S.C. §103

1. Claims 1-20 stand rejected under 35 U.S.C. §103(a). The Office Action states:

Claims 1 and 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,913,028) (hereinafter Wang) in view of Stevens (“TCP/IP Illustrated, Volume 1: The protocols” New York, 1994.) and further in view of Schulzrinne et al. <http://www.ietf.org/rfc/rfc1889.txt?number=1889>, January 1996) (hereinafter Schulzrinne).

As for claim 1, Wang discloses an apparatus for transferring information between a network and a storage device, the apparatus comprising:

a host computer having a CPU, (CPU 24, Fig. 2) operating a file system (file system 27, Fig. 3) and a host memory (memory 32, Fig. 2) connected to said CPU by a host bus (Figs. 2 and 3), and

an interface device coupled to said host computer, to the network and to the storage device, said interface device including an interface memory containing an interface file cache (local memory 44, Fig. 3)

adapted to store data that is communicated between the network and the storage device under control of said file system (Network I/O device, Fig. 3; col. 3, lines 31-52),

wherein said host computer is configured to designate *a socket* that is accessible by said interface device, and said interface device is configured to communicate said data between the network and the file cache according to said *socket* (Note, a socket is merely an endpoint of a connection, which is inherently required for communications on a network. See cited definition from techdictionary.com.; col. 4, line 38 – col. 5, line 5; Fig. 3).

Although obvious to one of ordinary skill in the art at the time of the invention, Wang does not explicitly teach that the socket may be a Uniform Datagram Protocol (UDP) socket. The Examiner notes that UDP is a well-known protocol for data transfer on networks, as shown by Stevens, chapter 11, for example. Schulzrinne further teaches the use of UDP as an underlying protocol for RTP in order to maintain the real-time characteristics of data such as audio and video (section 1, Introduction). As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection (See cited definition from techdictionary.com). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wang by using UDP sockets in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.

Applicants respectfully disagree with the Office Action statement that claim 1 is obvious over Wang et al. in view of Stevens and further in view of Schulzrinne et al. Initially note that Wang et al. does not teach or suggest an “interface file cache” as recited in claim 1. As described in the present application, on page 5, lines 16-18:

A file cache is provided on the interface device for storing data that may bypass the host, with organization of data in the interface device file cache controlled by a file system on the host.

As further described in the present application, on page 9, line 24- page 10, line 9:

The file system 23 is a high level software entity that contains general knowledge of the organization of information on storage units 66 and 70 and file caches 24 and 80, and provides algorithms that implement the properties and performance of the storage architecture. The file system 23 logically organizes information stored on the storage units 66 and 70, and respective file caches 24 and 80, as a hierarchical structure of files, although such a logical file may be physically located in disparate blocks on different disks of a storage unit 66 or 70. The file system 23 also manages the storage and retrieval of file data on storage units 66 and 70 and file caches 24 and 80. I/O driver 67 software operating on the host 20

under the file system interacts with controllers 64 and 72 for respective storage units 66 and 70 to manipulate blocks of data, i.e., read the blocks from or write the blocks to those storage units. Host file cache 24 and INIC file cache 80 provide storage space for data that is being read from or written to the storage units 66 and 70, with the data mapped by the file system 23 between the physical block format of the storage units 66 and 70 and the logical file format used for applications. Linear streams of bytes associated with a file and stored in host file cache 24 and INIC file cache 80 are termed file streams. Host file cache 24 and INIC file cache 80 each contain an index that lists the file streams held in that respective cache.

In contrast, Wang et al. states in column 4, lines 1-5:

The Peer I/O Manager implementation provides the program control necessary for coordinating and initiating peer I/O transfers directly from the storage I/O device to the network I/O device.

Moreover, Wang et al. states in column 11, lines 19-21:

The Peer I/O Manager, like NCP, is a protocol layer that accepts data packets addressed to its own unique Socket ID in a file server. The client redirector extension is a client-based software protocol layer that addresses file requests to the Peer I/O Manager socket ID in the file server.

In other words, the Peer I/O Manager of Wang et al. that provides the program control necessary for coordinating and initiating peer I/O transfers directly from the storage I/O device to the network I/O device is a network protocol layer, and is not part of the file system. This differentiation is made clear by Wang et al. in column 11, lines 26-36:

Thus, Peer I/O manager services co-exist with traditional file server functions the NCP protocol facilitates file open/close/read/write operations between traditional Network Attached Clients and file servers. NCP facilitates file read/write requests through Planar-board Centric I/O data transfers, i.e. all data moves through the File Cache in Planar-board memory. Peer I/O Manager, however, facilitates file read/write requests through Peer I/O data transfers, i.e., all data moves directly from Storage I/O device Local Memory to Network I/O Device Local Memory.

Because neither Wang et al. nor the other cited references teaches or suggests an “interface file cache” as recited in claim 1, claim 1 is not obvious over those references.

Moreover, further evidence that claim 1 is nonobvious is found when one considers the modification of Wang et al. that is proposed by the Office Action in an

attempt to make the cited references read on claim 1. Essentially, the Office Action proposes that one of ordinary skill in the art would have substituted a UDP socket in place of the 'Peer I/O Manager's unique Socket ID' that is taught by Wang et al. Applicants respectfully assert that one of such skill would not have made such a modification for several reasons. First, note that Wang et al. is described entirely with reference to the Novell Netware protocol suite, which includes layers such as IPX and NCP. UDP, however, is part of the TCP/IP protocol suite. There is no existing protocol standard that implements UDP over IPX, although an experimental RFC 1791 contemplates such a possibility. One of ordinary skill in the art, however, would not have taken the risk of basing critical tasks such as file system network communications on an unproven, unused, experimental possibility. Second, as noted above, Wang et al. states:

The Peer I/O Manager, like NCP, is a protocol layer that accepts data packets addressed to its own unique Socket ID in a file server.

Wang et al. further states, in column 11, lines 14-15:

FIG. 7, illustrates the NetWareTM Core Protocol (NCP) as a software layer above IPX.

It is not apparent, and would not have been clear to one of ordinary skill in the art, how to substitute a UDP socket for the "Peer I/O Manager...unique Socket ID" that is at the heart of Wang et al. For this reason, one of ordinary skill in the art would not have attempted the modification proposed by the Office Action, as it would have likely destroyed the function of Wang et al. The further suggestion by the Office Action to use "UDP as an underlying protocol for RTP in order to maintain the real-time characteristics of data such as audio and video" would only appear to exacerbate the problem mentioned above with regard to claim 1. For example, more than one port may be required for a given RTP message, as noted in RFC 1889, "2.2 Audio and Video Conference."

Third, applicants respectfully disagree with the Office Action statement that:

As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection (See cited definition from techdictionary.com).

As shown on page 229 of Stevens, chapter 18, section 18.1 Introduction (copy enclosed), UDP is a connectionless protocol, as opposed to TCP, for which a connection is required. Also enclosed is a copy of the definition of UDP from techdictionary.com, which also states that UDP is connectionless. Because the techdictionary.com and Stevens state that UDP is connectionless, applicants respectfully disagree with the Office Action assertion that “As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection.” The contradiction of elements alleged by the Office Action to be inherent further demonstrates that one of ordinary skill in the art at the time of the invention would not have made the modification proposed by the Office Action.

In sum, one of ordinary skill in the art would not have made the modification proposed by the Office Action, and if such modification had been made, the apparatus defined by claim 1 would have substantial and nonobvious differences from that proposedly modified device. Of course, as mentioned above, the apparatus defined by claim 1 would have further substantial and nonobvious differences from the modification of Wang et al. proposed by the Office Action because that modification would not have an “interface file cache” as recited in claim 1.

Regarding claim 3, the Office Action states:

As for claim 3, Wang does not explicitly disclose the use of Realtime Transport Protocol (RTP) headers. Schulzrinne teaches creating RTP headers and prepending the header to the data for transmission over the network (Sections 5, 5.1, 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by creating RTP headers and prepending the header to data in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.

Claim 3 recites, however:

The apparatus of claim 1, wherein said host computer is configured to create a Realtime Transport Protocol header that is accessible by said interface device, and said interface device is configured to prepend said Realtime Transport Protocol header to said data.

Neither Schulzrinne nor Wang et al. teaches or suggests that “said host computer is configured to create a Realtime Transport Protocol header” and that “said interface

device is configured to prepend said Realtime Transport Protocol header to said data.” For this additional reason, claim 3 is nonobvious over the references cited by the Office Action.

Regarding claims 4, 5 and 6, the Office Action states:

As for claims 4, 5 and 6, Wang does not explicitly disclose the use of UDP headers. Stevens teaches that UDP, by definition, prepends data with UDP headers, wherein the data is further divided into plural fragments which are concatenated corresponding to the UDP header (Sections 11.2 and 11.5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by using UDP headers and dividing the data into plural fragments, in order to efficiently transfer data over a network, as taught by Stevens above.

Claim 4 recites, however:

The apparatus of claim 1, wherein said data is stored with an associated User Datagram Protocol header, and said interface device includes a mechanism configured to process said User Datagram Protocol header.

Neither Stevens nor Wang et al. teaches or suggests that “said interface device includes a mechanism configured to process said User Datagram Protocol header.” For this additional reason, claim 4 is nonobvious over the references cited by the Office Action.

Moreover, claim 5 recites:

The apparatus of claim 1, wherein said data is prepended with a User Datagram Protocol header by said interface device to create a User Datagram Protocol datagram, and said interface device includes a mechanism configured to divide said datagram into plural fragments.

Neither Stevens nor Wang et al. teaches or suggests that “said data is prepended with a User Datagram Protocol header by said interface device to create a User Datagram Protocol datagram.” Further, neither Stevens nor Wang et al. teaches or suggests that “said interface device includes a mechanism configured to divide said datagram into plural fragments.” For these additional reasons, claim 5 is nonobvious over the references cited by the Office Action.

In addition, claim 6 recites:

The apparatus of claim 1, wherein said data is disposed in plural fragments, and said interface device includes a mechanism configured to

concatenate said fragments corresponding to a User Datagram Protocol header.

Neither Stevens nor Wang et al. teaches or suggests that “said interface device includes a mechanism configured to concatenate said fragments corresponding to a User Datagram Protocol header.” For this additional reason, claim 6 is nonobvious over the references cited by the Office Action.

Regarding claim 11, the Office Action states:

As for claim 11, Wang discloses an apparatus for transferring information between a network and a peripheral device, the apparatus comprising:

a host computer having a processor(CPU 24, Fig.2) connected to a host memory (memory 32, Fig.2) by a host memory bus (connection illustrated in Fig.2), said host memory containing an application operable by the processor to designate a *socket* (Note, a socket is merely an endpoint of a connection, which is inherently required for communications on a network. See cited definition from techdictionary.com.; col. 4, line 38 – col. 5, line 5; Fig. 3), and

an interface device (network I/O device 40, Fig. 2) connected to said host computer and coupled between the network and the peripheral device, said interface device including an interface memory adapted to store data corresponding to *said socket* and a mechanism configured to associate said data with a *header* corresponding to *said socket* such that said data is communicated between the network and the peripheral device without encountering said host computer (col. 4, line 38 – col. 5, line 5; Fig. 3).

Although obvious to one of ordinary skill in the art at the time of the invention, Wang does not explicitly teach that the socket may be a Uniform Datagram Protocol (UDP) socket. The Examiner notes that UDP is a well-known protocol for data transfer on networks, as shown by Stevens, chapter 11, for example. Schulzrinne further teaches the use of UDP as an underlying protocol for RTP in order to maintain the real-time characteristics of data such as audio and video (section 1, Introduction). As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection (See cited definition from techdictionary.com). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Wang by using UDP sockets in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.

Applicants respectfully disagree with the Office Action assertion that it “would have been obvious to one of ordinary skill in the art at the time of the invention to modify

the teachings of Wang by using UDP sockets in order to maintain the real-time characteristics of data such as audio and video, as taught by Schulzrinne above.” As noted above with regard to claim 1, the Office Action is proposing that one of ordinary skill in the art would have substituted a UDP socket in place of the ‘Peer I/O Manager’s unique Socket ID’ that is taught by Wang et al. Applicants respectfully assert that one of such skill would not have made such a modification for several reasons. First, note that Wang et al. is described entirely with reference to the Novell Netware protocol suite, which includes layers such as IPX and NCP. UDP, however, is part of the TCP/IP protocol suite, which is not taught or suggested by Wang et al. There is no existing protocol standard that implements UDP over IPX, although experimental RFC 1791 contemplates such a possibility. One of ordinary skill in the art, however, would not have taken the risk of basing mission critical tasks such as file system network communications on an unproven, unused, experimental possibility. Second, as noted above, Wang et al. states:

The Peer I/O Manager, like NCP, is a protocol layer that accepts data packets addressed to its own unique Socket ID in a file server.

Wang et al. further states, in column 11, lines 14-15:

FIG. 7, illustrates the NetWare™ Core Protocol (NCP) as a software layer above IPX.

It is not apparent, and would not have been clear to one of ordinary skill in the art, how to substitute a UDP socket for the “Peer I/O Manager...unique Socket ID” that is at the heart of Wang et al. For this reason, one of ordinary skill in the art would not have attempted the modification proposed by the Office Action, as it would have likely destroyed the function of Wang et al.

Moreover, the cited references do not teach, and the Office Action does not allege that they teach, “an interface device ... including ... a mechanism configured to associate said data with a User Datagram Protocol header corresponding to said User Datagram Protocol socket such that said data is communicated between the network and the peripheral device without encountering said host computer.” For this additional reason claim 11 is nonobvious over the combination of references proposed by the Office Action.

Also, as discussed above, applicants respectfully disagree with the Office Action assertion that “As understood by one of ordinary skill in the art at the time of the invention, when UDP is used, UDP sockets are inherently required in order to designate the endpoints of the connection.” The contradiction of elements alleged by the Office Action to be inherent further demonstrates that one of ordinary skill in the art at the time of the invention would not have made the modification proposed by the Office Action.

In short, one of ordinary skill in the art at the time of the invention would not have been motivated to make the modification of Wang et al. that is proposed by the Office Action, and even if such modification had been attempted, the apparatus defined by claim 11 would have substantial and nonobvious differences from the modification of Wang et al. with Stevens and Schulzrinne that is proposed by the Office Action.

Regarding claim 12, the Office Action states:

As for claim 12, Wang discloses the apparatus of claim 11, wherein said host computer contains a file system (file system 27, Fig. 3) and said interface memory includes a file cache (local memory, 44, Fig. 3) adapted to store said data, wherein said file system manages storage of said data in said file cache (col. 4, line 38 – col. 5, line 5; Fig. 3).

As discussed above with regard to claim 1, applicants respectfully assert that Wang et al. does not teach or suggest an interface file cache as defined in claim 12. for example, Wang et al. states in column 4, lines 1-5:

The Peer I/O Manager implementation provides the program control necessary for coordinating and initiating peer I/O transfers directly from the storage I/O device to the network I/O device.

Moreover, Wang et al. states in column 11, lines 19-21:

The Peer I/O Manager, like NCP, is a protocol layer that accepts data packets addressed to its own unique Socket ID in a file server. The client redirector extension is a client-based software protocol layer that addresses file requests to the Peer I/O Manager socket ID in the file server.

In other words, the Peer I/O Manager of Wang et al. that provides the program control necessary for coordinating and initiating peer I/O transfers directly from the storage I/O device to the network I/O device is a network protocol layer, and is not part of the file system. This differentiation is made clear by Wang et al. in column 11, lines 26-36:

Thus, Peer I/O manager services co-exist with traditional file server functions the NCP protocol facilitates file open/close/read/write operations between traditional Network Attached Clients and file servers. NCP facilitates file read/write requests through Planar-board Centric I/O data transfers, i.e. all data moves through the File Cache in Planar-board memory. Peer I/O Manager, however, facilitates file read/write requests through Peer I/O data transfers, i.e., all data moves directly from Storage I/O device Local Memory to Network I/O Device Local Memory.

Because neither Wang et al. nor the other cited references teaches or suggests an “interface file cache” as recited in claim 12, claim 12 is not obvious over those references.

Regarding claims 13 and 14, the Office Action states:

As for claims 13 and 14, Wang does not explicitly disclose the use of UDP packets and headers. Stevens teaches that UDP, by definition, includes UDP packets and headers, wherein said data travels over the network in plural fragments (packets) corresponding to the header. The interface device is further required to process the UDP headers and concatenate the data. See Stevens, Chapter 11, and particularly sections 11.2 and 11.5. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by using UDP packets and headers, wherein the interface device processes the headers and concatenates the data, because these are well-known and necessary steps in order to efficiently transfer data over a network, as taught by Stevens above.

Claim 13 recites, however:

The apparatus of claim 11, wherein said data travels over the network in at least one packet containing a User Datagram Protocol header, and said interface device includes circuitry configured to process said User Datagram Protocol header.

There is no teaching or suggestion in Wang et al. or Stevens that “said interface device includes circuitry configured to process said User Datagram Protocol header,” as recited in claim 13. Applicants respectfully disagree with the Office Action assertion that: “The interface device is further required to process the UDP headers and concatenate the data. See Stevens, Chapter 11, and particularly sections 11.2 and 11.5.” Applicants respectfully request the Examiner to point out where in Chapter 11 Stevens teaches that an “interface device” is “required to process the UDP headers and

concatenate the data.” For this additional reason, claim 13 is nonobvious over the references cited by the Office Action.

Similarly, claim 14 recites:

The apparatus of claim 11, wherein said data travels over the network in plural fragments corresponding to a User Datagram Protocol header, and said interface device is configured to concatenate said data with said User Datagram Protocol header.

There is no teaching or suggestion in Wang et al. or Stevens that “said interface device is configured to concatenate said data with said User Datagram Protocol header,” as recited in claim 14. Applicants respectfully disagree with the Office Action assertion that: “The interface device is further required to process the UDP headers and concatenate the data. See Stevens, Chapter 11, and particularly sections 11.2 and 11.5.” Applicants respectfully request the Examiner to point out where in Chapter 11 Stevens teaches that an “interface device” is “required to process the UDP headers and concatenate the data.” For this additional reason, claim 14 is nonobvious over the references cited by the Office Action.

Regarding claim 15, the Office Action states:

As for claim 15, Wang does not explicitly disclose the use of Realtime Transport Protocol (RTP). Schulzrinne teaches the use of RTP and RTP headers in order to transfer data over a network while maintaining the real-time characteristics (Section 1, Introduction; Section 5, 5.1, RTP fixed header fields). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wang by using RTP and RTP headers in order to transfer data over a network while maintaining the real-time characteristics, as taught by Schulzrinne above.

Claim 15 recites, however:

The apparatus of claim 11, wherein said host computer is configured to create a Realtime Transport Protocol header that is accessible by said interface device, and said interface device is configured to prepend said Realtime Transport Protocol header to said data.

None of the cited references teaches or suggests that “said host computer is configured to create a Realtime Transport Protocol header” and that “said interface device is configured to prepend said Realtime Transport Protocol header to said data.”

For this additional reason, claim 15 is nonobvious over the references cited by the Office Action.

2. Claim 2 stands rejected under 35 U.S.C. §103(a). The Office Action states:

Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Stevens and Schulzrinne and further in view of Applicant's admitted prior art (hereinafter AAPA).

As for claim 2, although it may be argued to be inherent to Wang or well-known in the art, Wang, Stevens and Schulzrinne do not specifically disclose a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data. AAPA teaches that it is conventionally known to use a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data (pg. 31, line 28 – pg. 32, line 8). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data.

As an initial matter, applicants respectfully disagree that it is inherent to Wang or well-known in the art to have “a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data.” Inherency requires that a missing element is naturally and necessarily present, and it is clear that such is not the case with the missing elements alleged by the Office Action to be inherent. Moreover, that which is inherent is not necessarily obvious. If the Office Action is claiming that the missing elements are well-known, then the Examiner should have no trouble finding them and providing a citation to support his rejection, and applicants respectfully request the Examiner to provide such a citation, as required by law. Moreover, applicants are unsure of what is meant by “Applicant's admitted prior art ...AAPA,” and respectfully decline to admit that anything is prior art simply because the Examiner labels it as “AAPA.”

Furthermore, assuming that the Office Action is referring to page 31, line 28 – page 32, line 8 of the present application as filed, those lines do not teach that “it is conventionally known to use a host computer that is configured to create an application layer header that is accessible by said interface device, and said interface device is configured to prepend said application layer header to said data,” as stated in the Office Action. Instead, those lines state:

To conventionally transmit communications via UDP, datagrams up to 64KB, which may include session or application layer headers and are commonly NFS default-size datagrams of up to about 8 KB, are prepended with a UDP header by a host computer and handed to the IP layer. The UDP header includes the source and destination ports and an optional checksum. For Ethernet transmission, the UDP datagrams are divided, if necessary, into approximately 1.5 KB fragments by the IP layer, prepended with an IP header, and given to the MAC layer for encapsulation with an Ethernet header and trailer, and sent onto the network. The IP headers contain an IP identification field (IP ID) that is unique to the UDP datagram, a flags field that indicates whether more fragments of that datagram follow and a fragment offset field that indicates which 1.5 KB fragment of the datagram is attached to the IP header, for reassembly of the fragments in correct order.

Nowhere in these lines is there mention of an “interface device is configured to prepend said application layer header to said data,” as alleged in the Office Action. Moreover, the cited lines do not state that such an interface device is conventional, or that “an application layer header that is accessible by said interface device” is conventional. For at least these reasons, the Office Action has failed to present a prima facie case of obviousness for claim 2.

E. Other Cited Art

Applicants have reviewed the other cited art mentioned in the “Conclusion” of the Office Action. Applicants respectfully submit that none of that art renders the pending claims unpatentable.

IV. Response to Interview Summary

In the Examiner’s Interview Summary, it is stated that “Applicant stated that the claims of the present application are supported only by the present disclosure.”

Applicants made that statement in order to expedite examination of those claims and because applicants are convinced that the claims are patentable on that basis. Applicants reserve the right, however, to point out prior applications which support the claims, after these claims have issued in a patent.

V. Conclusion

In this Election and Amendment, applicants have elected an invention defined by the Office Action, cancelled claims that do not correspond to that invention and added new claims that correspond to the elected invention. In addition, applicants have responded to each item of the Office Action, as well as correcting some typographical errors. Applicants have also shown that the Office Action has not presented a prima facie case of obviousness for any of the claims. As such, applicants respectfully assert that the application is in condition for allowance, and a notice of allowance is solicited.

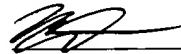
Respectfully submitted,

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on November 29, 2004.

Date: 11-29-04


Mark Lauer


Mark Lauer
Reg. No. 36,578
6601 Koll Center Parkway
Suite 245
Pleasanton, CA 94566
Tel: (925) 484-9295
Fax: (925) 484-9291